

Barred Owls and Nest Boxes

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The use of artificial nesting structures by the Barred Owl (*Strix varia*) has long been assumed. This is due in part to the use of man-made structures by a closely related species, the Tawny Owl (*Strix aluco*) in Europe (Davey 1969). Hamerstrom (1972) gave recommended but untested Barred Owl box dimensions. A literature search reveals 3 published accounts (Johnson 1980, Follen 1982, Synder and Drazkowski 1981) of Barred Owls using artificial structures for nesting. We briefly discuss Barred Owl use of various types of semi-natural and artificial nesting structures in Minnesota, Wisconsin, and Michigan.

Minnesota: Table 1 shows use of artificial and natural cavity nest sites by Barred Owls in north-central Minnesota (Hubbard, Wadena, and Crow Wing counties) during the breeding seasons of 1980, 1981, and 1982. All nesting attempts were successful in fledging from 1 to 4 young. A "# nesting attempts" column is shown as some nests were used in 2 and 3 consecutive years. Average production from 12 nesting attempts in artificial structures was 2.75 young fledged/nesting attempt. Average production in 4 natural cavity nests was 2.00 young fledged/nesting attempt. This difference in production is likely related to the prey abundance/availability within the owls' territory than to a function of nest site quality. However, larger sample sizes are needed to better assess this evaluation. Figure 1 shows the design of the Barred Owl nest box currently being used by the first author. This box is a slightly enlarged Wood Duck (*Aix sponsa*) box with a

17.8 cm diameter entrance hole. Thirty-five of these are currently being field tested in various forest habitats in north-central Minnesota. Heights of nest boxes and topless Wood Duck boxes used by owls have ranged from 3.73-6.70 m (measured from bottom of entrance hole to ground level). Both back-mounted and side-mounted nest boxes (see Fig. 1) have been used by owls (N=2 and N=5 respectively, based on number of nesting attempts).

Table 1. Minnesota Records.

Type of nest	# nests used	# nesting attempts	young fledged
Barred Owl nest box	5	7	18
Topless Wood Duck box	2	4	12
Wood Duck box (with top)	1	1	3
Natural cavity	4	6	12

Wisconsin: In 1966, 3 young Barred Owls were fledged from a topless Wood Duck box, located on Goose Island, La Crosse County. In 1967, this same box contained 2 young. Additional boxes of this type were successful in subsequent years, but unfortunately the particular nesting data were not recorded (J. Rosso pers. comm., F. Leshner pers. Comm.).

A large Barred Owl nest box was established in 1979 by Bill Drazkowski along the Mississippi River backwaters in

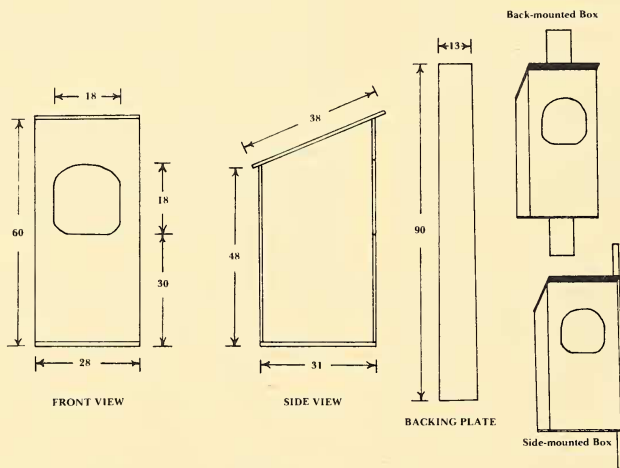


Figure 1. Barred Owl nest box made of wood (1.3 cm thick). All dimensions are in cm.

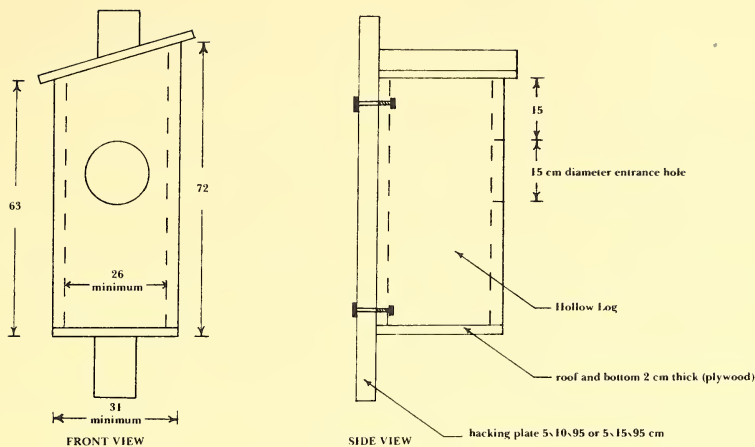


Figure 2. Semi-natural (hollow log) Barred Owl nest cavity. All dimensions are in cm.

Trempealeau County. In 1980 this box contained 2 young, and 3 in 1981. The dimensions of this box were: entrance hole 22.2 x 21.0 cm, bottom of entrance hole to floor of box 33.0 cm, inside floor 33.6 x 36.2 cm. Mr. Drazkowski found the birds to be nesting in the corner of the box, indicating that perhaps such a large box was not required.

In 1981, owls fledged 3 young from a semi-natural nest structure established by Follen in Wood County (Follen 1982). This structure (Fig. 2) consists of a section of a hollow log, with top, bottom and backing plate added. In this structure a 15.2 cm diameter entrance hole was used.

Michigan: In 1977 and 1978 Barred Owls nested in a Red-shouldered Hawk (*Buteo lineatus*) nest in Alpena County. It was unsuccessful, as eggshells and dead young were found beneath the nest. Lewis Scheller (pers. comm.) then established a reconditioned topless Wood Duck box in the area on 2 March 1979. It was used in 1979 and young owls successfully fledged. In 1980 owls again used it, as evidenced by a single infertile egg. In 1981 owls fledged 2 young from 2 eggs, and 3 young from 3 eggs in 1982. This box is approximately 57 cm deep with a bottom of about 31 x 31 cm. Scheller has also established 5 other slightly larger nest boxes, all with open tops. At the time of this writing, none of these have been used by owls.

The availability of suitable nest sites is reported to be a limiting factor for cavity nesting species (Thomas et al. 1979). With current forest management directives of short rotations, intensive culture, etc., this situation is becoming more severe. Although Barred Owls have nested in old hawk or squirrel nests in northeastern US (Bent 1938:183) and in Michigan (L. Scheller per. comm.), in Minnesota they have been recorded only as a cavity nester (Johnson 1982). Beginning in 1980, a five year project was initiated in north-central Minnesota to address the question of artificial nest structures (design, placement, and suitability) for Barred Owls. A project of a

similar nature has also been started in Wisconsin. Our findings thus far indicate that Barred Owls do succeed fully nest in various types of man-made and semi-natural nest cavities in Minnesota, Wisconsin, and Michigan. A nest box project has also been started in New Jersey by Leonard J. Soucy, Jr.

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